

PATENT

MAR 22 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Jorge L. Gardea-Torresdey *et al.*

Serial No.: 10/732,927

Filed: December 10, 2003

For: THE PREPARATION OF METAL  
NANOPARTICLES IN PLANTS

Group Art Unit: Unknown

Examiner: Unknown

Atty. Dkt. No.: UTSE:103US

CERTIFICATE OF MAILING  
37 C.F.R 1.8

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March 18, 2004

Date

Steven L. Highlander

INFORMATION DISCLOSURE STATEMENT

MS DD  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

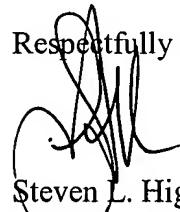
In accordance with 37 C.F.R. §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be

an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSE:103US.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,



Steven L. Highlander  
Reg. No. 37,642  
Attorney for Applicants

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Date: March 18, 2004

Form PTO-1449 (modified)

Atty. Docket No.

Serial No.

UTSE:103US

10/732,927

Applicant

Jorge L Gardea-Torresdey *et al.*

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December 10, 2003

Group:

Unknown

U.S. Patent Documents

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Foreign Patent Documents

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Other Art

See Page 1

**U.S. Patent Documents**

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.

**Foreign Patent Documents**

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No

**Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**

Exam. Init.	Ref. Des.	Citation
	C1	Dickson, "Nanostructured magnetism in living systems," <i>J. Magn. Magn. Mater.</i> , 203:46-49, 1999.
	C2	Gardea-Torresdey <i>et al.</i> , "Alfalfa sprouts: a natural source for the synthesis of silver nanoparticles," <i>Langmuir</i> , 19:1357-1361, 2003.
	C3	Gardea-Torresdey <i>et al.</i> , "Effects of chemical competition for multi-metal binding by medicago sativa(alfalfa)," <i>J. Hazard. Mater.</i> , B69:41-51, 1999.
	C4	Gardea-Torresdey <i>et al.</i> , "Formation and growth of Au nanoparticles inside live alfalfa plants," <i>Nano Lett.</i> , 2(4):397-401, 2002.
	C5	Gardea-Torresdey <i>et al.</i> , "Gold nanoparticles obtained by bio-precipitation from gold(III) solutions," <i>J. Nanopart. Res.</i> , 1:397-404, 1999.
	C6	Gardea-Torresdey <i>et al.</i> , "Reduction and accumulation of gold(III) by medicago sativa alfalfa biomass: x-ray absorption spectroscopy, pH, and temperature dependence," <i>Environ. Sci. Technol.</i> , 34:4392-4396, 2000.
	C7	Greene <i>et al.</i> , "Interaction of gold(I) and gold(III) complexes with algal biomass," <i>Environ. Sci. Technol.</i> , 20(6):627-632, 1986.
	C8	Klaus <i>et al.</i> , "Silver-based crystalline nanoparticles, microbially fabricated," <i>Proc. Natl. Acad. Sci., USA</i> , 96(24):13611-13614, 1999.

25375953.1

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Form PTO-1449 (modified)

Atty. Docket No.

Serial No.

UTSE:103US

10/732,927

List of Patents and Publications for Applicant's

Applicant

Jorge L Gardea-Torresdey *et al.*

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date:

December 10, 2003

Group:

Unknown

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 1

Other Art

See Page 1

**Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**

Exam. Init.	Ref. Des.	Citation
	C9	Kuyucak and Volesky, "Accumulation of gold by algal biosorbent," <i>Biorecovery</i> , 1:189-204, 1989.
	C10	McInnes <i>et al.</i> , "Biogeochemical exploration for gold in tropical rain forest regions of Paupa New Guinea," <i>J. Geochem. Explor.</i> , 57:227-243, 1996.
	C11	Mukherjee <i>et al.</i> , "Fungus-mediated synthesis of silver nanoparticles and their immobilization in the mycelial matrix: a novel biological approach to nanoparticle synthesis," <i>Nano Lett.</i> , 1(10):515-519, 2001.
	C12	Nalwa, In: <i>Handbook of Nanostructural Materials and Nanotechnology</i> , Academic Press, NY, 1-5, 2000.
	C13	Stephen and McCaughton, "Developments in terrestrial bacterial remediation of medals," <i>Curr. Opin. Biotechnol.</i> , 10:230-233, 1999.

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March 18, 2004

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March 18, 2004

Date

Steven L. Highlander

MS DD  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

RE: *U.S. Patent Application No. 10/732,927 entitled "THE PREPARATION OF METAL NANOPARTICLES IN PLANTS" – Jorge L. Gardea-Torresdey et al.*  
*Our reference: UTSE:103US*

Sir:

Enclosed for filing in the above-referenced patent application is an Information Disclosure Statement, Form PTO-1449, and references C1-C13.

No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to the enclosed materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSE:103US.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,  
Steven L. Highlander  
Reg. No. 37,642

SLH/kmv  
Encl.: as noted